

NOMENCLATURAL TRANSFERS AND  
TAXONOMIC NOTES ON SOME SOUTH AMERICAN GENTIANACEAE<sup>1</sup>

James S. Pringle

Royal Botanical Gardens, Box 399, Hamilton, Ontario, Canada L8N 3H8

A number of new combinations are needed in order that several South American specimens of Gentianella, and one of Gentiana, sent to me for identification can be labeled with validly published names. Generic status for Gentianella is widely accepted by contemporary students of the Gentianaceae. Combinations for many of the South American species have been published, e.g., by Fabris (1960), who discussed the generic placement of the South American gentians in his monograph on Gentianella in Ecuador. However, he did not live to complete the work on the Peruvian species in which some of the combinations made here would have appeared.

During the course of these studies, some problems of typification and identification, discussed here, were disclosed, and in other cases new collections have helped to resolve long-standing taxonomic problems. Also, four chromosome counts, each the first for the respective species, are reported in this paper.

Gentiana casapaltensis (J. Ball) Pringle, status nov. Basionym:  
Gentiana sedifolia var. casapaltensis J. Ball, J. Linn.  
Soc., Bot. 22:49. 1885.

Gentianella carneorubra (Gilg) Fabris ex Pringle, comb. nov.  
Basionym: Gentiana carneorubra Gilg, Bot. Jahrb. Syst.  
54(Beibl. 118):55. 1916, "carneo-rubra."

Gentianella cerastioides (H.B.K.) Fabris. n=18. ECUADOR: Cotopaxi:  
al lado de la Carretera Pan Americana entre Quito y Latacunga,  
frente a la NASA, Escobar & Amundsen 612, 17 Sept 1978 (HAM).<sup>2</sup>

Gentianella cosmantha (Griseb.) Pringle, comb. nov. Basionym:  
Gentiana cosmantha Griseb., Abh. Königl. Ges. Wiss.  
Göttingen 19:209. 1874.

Gentianella ernestii (Briq.) Fabris ex Pringle, comb. nov. Basionym:  
Gentiana ernestii Briq., Candollea 4:326. 1931.

Gentianella formosissima (D. Don ex G. Don) Fabris ex Pringle, comb.  
nov. Basionym: Eudoxia formosissima D. Don ex G. Don, Gen.  
Hist. 4:202. 1837 ("1838"). Gentiana formosissima (D. Don ex G.  
Don) Gilg, Bot. Jahrb. Syst. 54(Beibl. 118):54. 1916.

Although Eudoxia formosissima was described as having "scarlet" corollas, its identity as the distinctive and spectacular species represented, e.g., by Macbride 4348 (F) and Duncan et al. 2635 (HAM, MO, UC) has been recognized by Gilg (1916), Macbride (1959), and Fabris (in adnot., Macbride 4348). On specimens seen by Macbride (1959), the fresh corollas had been described as "dark rose, purple, red, and ... dull magenta" (Gentiana formosissima) or "lilac (blue-lilac-reddish)" (G. regina). Those of Duncan et al. 2635 (HAM, MO) were described as "lavender." These descriptions indicate that corolla color in this species varies in depth and in position along a blue-violet to red-violet continuum. A similar range of corolla colors prevails in Gentianella cerastioides (H.B.K.) Fabris, but a few specimens have been collected with orange-red corollas, e.g., Holm-Nielsen et al. 6582 (AAU, S). Similar variation may exist in G. formosissima. Alternatively, Don's description of the corollas as scarlet may represent an assumption based on the color of the dried corollas, or an interpretation of an ambiguous term in the collection data.

I have followed Gilg (1916) and Macbride (1959) in including Gentiana herrediana Raimondi ex Wedd. within this species. I have also accepted Macbride's informal suggestion that Gentiana regina Gilg, by which name this species has perhaps been better known, should also be included in G. formosissima. Gilg (1916) differentiates these "species" according to the presence of trichomes at the base of the stamens in G. regina, and their absence in G. formosissima. According to Macbride (1959), however, the corolla of G. formosissima is "sparsely barbate" within, and that of G. regina has "many" trichomes. The presence or number of such trichomes is easily obscured in Gentianella unless the corolla is thoroughly spread out so as to disclose the interior, and variability in the number of trichomes has been noted in other species (see Macbride, 1959, on G. liniflora). The types of both G. herrediana and G. regina were collected in the Department de Ancash (the type locality of G. formosissima is recorded only as "Peru").

Gentianella incurva (Hook.) Fabris.

Plants of this species have sometimes been identified as Gentiana primulifolia Griseb. or Gentianella primulifolia (Griseb.) Holub. In Gilg's (1916) key, G. primulifolia is distinguished from G. incurva by its being "low," with the flowering stems "1-flowered, rarely 2-3 flowered," whereas G. incurva is reached via "Plants mostly tall, stems many flowered ..." In another couplet, however, G. incurva is said to have "short few-flowered cymes," and elsewhere plants of the species are described as "low" (from material called "largely a translation" by Macbride, 1959). Gilg (1916) considered the small corolla of G. primulifolia, up to 1.5 cm long, in proportion to the calyx, 11-12 mm long, to be distinctive. Macbride (1959) however, noted that in the type specimen of G. primulifolia (Mathews 853, G, photo F!), "The flowers are obviously not fully grown."

Plants closely corresponding to the type of G. incurva occur in abundance at and near the height-of-land between Huancayo and Pariahuanca in the Departamento de Junín, Perú (Pringle 2503, HAM, MO). There is some variation in plant size and in corolla color, but plants there with red, red-and-yellow, orange-and-yellow, and occasionally all-yellow corollas are obviously conspecific. The same species is common in much of Junín; I have seen it in the vicinity of Tarma and La Oroya, not far from Cerro de Pasco, the type locality of G. incurva. The type locality of G. primulifolia is the same area between Huancayo and Pariahuanca where G. incurva grows so abundantly, and I found no other species with corollas in the red to yellow color range there. The type of G. primulifolia, although a poor specimen, is compatible with G. incurva. The name G. primulifolia, therefore, seems best regarded as a synonym of G. incurva.

Gentianella pavonii (Griseb.) Fabris. n = 18. PERU: Junín: just above the higher of 2 ponds S of highway between Tarma and La Oroya at Abras Cochass, Pringle 2521, 10 Jan 1979 (HAM).

There have been problems in applying the name Gentianella pavonii, with epithet priority from 1845, to recent collections. The basionym, Gentiana pavonii Griseb., was published in direct substitution for Selatium multicaule D. Don ex G. Don, the epithet multicaulis having been applied to another species in Gentiana (and subsequently in Gentianella). Selatium multicaule is typified by a Ruiz & Pavón collection from Tarma, Perú. The Ruiz & Pavón collections seen by the Don brothers were those then in the herbarium of A.B. Lambert, the source (via several intermediaries) of the Ruiz & Pavón collections now in G (Miller, 1970). Therefore, the replicate of the type collection in G (photo in F!), identified as such by Ernst Gilg, can be accepted as the holotype. Isotypes, probably not seen by the Dons, are in F and MA. This collection and my no. 2521 are clearly conspecific, although the Ruiz & Pavón collection comprises smaller, more slender plants with longer peduncles. Grant 7536 (F, 2 sheets) and Macbride 3027 (F) are highly similar to my no. 2521 in floral morphology and corolla color, and include some small, slender-stemmed plants closely resembling those in the type collection, thus bridging any discontinuity between my collection and the type. One of the most distinctive features uniting these specimens is the squarrose calyx lobes. Also, in the original description of Selatium multicaule (Don, 1837), the corolla lobes were described as being "connivent." This feature, in which the corollas remain loosely closed at anthesis, further supports the identity of the plants I observed at Abras Cochass with the type of G. pavonii. The corollas of the type were described as being pale lilac, the ground color of the corollas in all of the recent collections cited here.

Grant 7536 and Macbride 3027 were, however, identified as "Gentianella aff. paludicola" by Fabris. A photograph (F) of the type specimen of Gentiana paludicola Gilg, Weberbauer 2694 (formerly in B, not extant), shows a much more erect, less leafy plant apparently of a different species. This specimen, moreover, was collected in the Departamento de Ancash, whereas Grant 7536, Macbride 3027, Pringle 2521, and the type of G. pavonii were all collected in mountains between Lima and Tarma, my collection

being from the same pass where Ruiz and Pavón had collected en route to Tarma. If G. pavonii and G. paludicola were considered conspecific, the epithet pavonii would have priority.

Weberbauer 6599 was identified as Gentianella pavonii by Fabris and earlier as Gentiana multicaulis (G. Don) Gilg (illegitimate name; not G. multicauls Gillies ex Griseb.) by Gilg. This specimen, however, exhibits neither decumbent stem bases nor squarrose calyx lobes, and its corolla lobes appear to have been spreading, probably white or yellow without purple suffusion. Thus this specimen seems less similar to Ruiz & Pavón's type collection than those cited above.

Supplementing the very brief descriptions of the corollas of G. pavonii published to date, it is noted here that they are 13-15 mm long, with the lobes about twice as long as the tube, and that they are pale violet with dark violet veins. Although this species has been said to have the "corolla tube glabrous" (Macbride, 1959), there is some minute pubescence within the corolla tube, immediately below and in line with the sinuses between the lobes. There are, however, no conspicuous longer trichomes.

Although Gentianella is a large and diverse genus, counts to date indicate little variation in basic chromosome numbers, with  $x = 9$  ( $n = 9, 18, 27$ ) in all species counted except G. auriculata (Pall.) J.M. Gillett ( $n = 24$ ) (Comastoma Toyokuni and Gentianopsis Ma excluded). Although counts have been published for only a few of the many South American species, thus far all have been found to have  $n = 18$ .

Gentianella rapunculoides (Willd. ex Schultes) Pringle, comb. nov.

Basionym: Gentiana rapunculoides Willd. ex Schultes in Roemer & Schultes, Syst. Veg. 6:185. 1820. Gentiana diffusa H.B.K., Nov. Gen. Sp. Pl. 3:134 (quarto text). 1819 ("1818"), non Vahl, Symb. Bot. 3:47. 1794. Gentianella diffusa (H.B.K.) Fabris, Bol. Soc. Argent. Bot. 8:179. 1960  $n = 18$ . ECUADOR: Azuay: 17 km oeste Cuenca en carretera que conduce a Sayause, Escobar 660, 30 Oct 1978 (HAM).

A new nomenclatural combination is required for this species because of the illegitimacy of the name Gentiana diffusa H.B.K.

Gentianella sanctorum (Gilg) Pringle, comb. nov. Basionym:

Gentiana sanctorum Gilg, Repert. Spec. Nov. Regni Veg. 2:41. 1906.

Within G. sanctorum I include those plants treated by Macbride (1959) as Gentiana verticillata Wedd. 1861, non L. 1758. These "species" were distinguished by size difference, especially in the corollas. Macbride's doubts that they were in fact distinct have been supported by the present study; Mostacero L. et al. 555 (HAM, HUT, MO) is intermediate in most measurements.

Halenia weddelliana Gilg. n = 11. ECUADOR: Cotopaxi: Pan American Highway south of Quito, across the highway from the NASA station, Escobar & Amundsen 613, 17 Sept 1978 & 19 Jan 1979 (HAM).

## LITERATURE CITED

- Don, G. 1831-1838. A General History of the Dichlamydeous Plants ... London: J. & G. Rivington et al. 4 vols. (Gentianaceae in vol. 4(1). 1837).
- Fabris, H.A. 1960. El género Gentianella en Ecuador. Bol. Soc. Argent. Bot. 8:160-192.
- Gilg, E. 1916. Gentianaceae andinae. Bot. Jahrb. Syst. 54(Beibl. 118): 4-122.
- Holmgren, P.K., & W. Keuken. 1974. Index Herbariorum. Part I: the herbaria of the world, ed. 6. Regnum Veg. vol. 92. vii + 397 pp.
- Macbride, J.F. 1959. Gentianaceae. Gentian Family. In: Flora of Peru. Field Mus. Nat. Hist., Bot. Ser. 13(5):270-263.
- Miller, H.S. 1970. The herbarium of Aylmer Bourke Lambert: notes on its acquisition, dispersal, and present whereabouts. Taxon 19:489-553.

---

<sup>1</sup>Contribution No. 45 from the Royal Botanical Gardens, Hamilton, Ontario, Canada.

<sup>2</sup>Abbreviations for herbaria follow Holmgren & Keuken (1974).